UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/824,496	03/14/97	COOPER J	JCC396A

TM11/1012

J. CARL COOPER
PIXEL INSTRUMENTS CORP.
110 KNOWLES DRIVE
LOS GATOS CA 95032

EXAMINER	
HARVEY, M	
ART UNIT	**PAPER NUMBER**
2644	13

DATE MAILED: 10/12/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/824,496	COOPER
Examiner	**Group Art Unit**
Minsun Oh Harvey	2644

☒ Responsive to communication(s) filed on *Jul 20, 2000*

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-53* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-53* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

1. Claims 8-17, 28, 32-36 and 39 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Correlation circuit which has been claimed in claims 8-17, 28, 32-36 and 39 do not read on figure 2.

In claim 39, the applicant has claimed step a) include "pitch correction". However, it is unclear to the examiner how the delaying of step a) include pitch correction as claimed. Clarification is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 to 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirby.

Regarding claim 1, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the gain responsive to operator adjustment (mix minus signal is

fed back to the filter which adjusts gain) ; a combining circuit (40) responsive to the feedback signal without further substantial variable delay (no compensation adjustment is made to delay 21 when small delays are detected) and the cancellation signal (output of 38) to provide the mix minus signal (output of 40).

Regarding claim 2, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the gain responsive to the mix minus signal (mix minus signal is fed back to the filter which adjusts gain) ; a combining circuit (40) responsive to the feedback signal without further substantial variable delay (no compensation adjustment is made to delay 21 when small delays are detected) and the cancellation signal (output of 38) to provide the mix minus signal (output of 40).

Regarding claim 3, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the delay responsive to feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected) and the amount of the gain responsive to the mix minus signal (mix minus signal is fed back to the filter which adjusts gain) ; a combining circuit (40) responsive to the feedback signal without further substantial variable delay (no compensation adjustment is made to delay 21 when small

delays are detected) and the cancellation signal (output of 38) to provide the mix minus signal (output of 40).

Regarding claim 5, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the gain responsive to operator adjustment (mix minus signal is fed back to the filter which adjusts gain) ; a combining circuit (40) responsive to the feedback signal without further substantial variable delay (no compensation adjustment is made to delay 21 when small delays are detected) and the cancellation signal (output of 38) to provide the mix minus signal (output of 40); wherein the amount of the gain is responsive to the feedback signal ((coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 7, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the gain responsive to operator adjustment (mix minus signal is fed back to the filter which adjusts gain); a combining circuit (40) responsive to the feedback signal without further substantial variable delay (no compensation adjustment is made to delay 21 when small delays are detected) and the cancellation signal (output of 38) to provide the mix

minus signal (output of 40); wherein the amount of the gain is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 19, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the gain responsive to operator adjustment (mix minus signal is fed back to the filter which adjusts gain); a combining circuit (40) responsive to the feedback signal and the cancellation signal (output of 38) to provide the mix minus signal (output of 40); wherein the delay is automatically adjusted in response to comparison of the feedback signal and the talent signal in undelayed from (10), and the gain is automatically adjusted in response to the mix minus signal (mix minus signal is fed back to the filter) and the talent signal in delayed form (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 20, Kirby discloses delaying the talent signal (12) by a varying delay amount in continuing response to the variable amount if delay (inherent since delay measuring system 10 continuously monitor incoming signals); providing a cancellation signal of a known level in response to the delayed talent signal (output of 38); changing the varying delay amount of the delay in step a) from time to time (no changes to delay if small changes in delay of incoming signals are detected); combining the feedback signal and the cancellation signal to provide the mix minus signal (40).

Regarding claim 21, Kirby discloses delaying the talent signal (12) by a varying delay amount in continuing response to the varying relative timing (inherent since delay measuring system 10 continuously monitor incoming signals); adjusting the level of the talent signal in delayed or undelayed form (32 and 38) and providing a cancellation signal in response to the delayed form thereof (output of 38) ; in the adjusting step b), changing the amount if the level in responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal the cancellation signal (output of 40).

Regarding claim 22, Kirby discloses delaying the talent signal (12) by a varying delay amount in continuously responsive to the relative delay which may vary (inherent since delay measuring system 10 continuously monitor incoming signals); adjusting the level of the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) and providing a cancellation signal in response to the delayed version thereof (output of 38) ; wherein in step a) the varying delay amount is automatically responsive to the feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected) and in step b) the level is automatically responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal the cancellation signal (output of 40).

Regarding claim 24, Kirby discloses delaying the talent signal (12) by a varying delay amount in response to the variable amount of delay (22); providing a cancellation signal of a known level in response to the delayed talent signal (output of 38) ; changing the varying delay

amount of the delay in step a) from time to time (no changes to delay if small changes in delay of incoming signals are detected); combining the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the varying the level of step b) is responsive to the feedback signal (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 26, Kirby discloses delaying the talent signal (12) by a varying delay amount in response to the variable amount of delay (22); providing a cancellation signal of a known level in response to the delayed talent signal (output of 38) ; changing the varying delay amount of the delay in step a) from time to time (no changes to delay if small changes in delay of incoming signals are detected); combining the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the varying the level of step b) is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 29, Kirby discloses delaying the talent signal (12) by a varying delay amount in response to the variable amount of delay (22); providing a cancellation signal of a known level in response to the delayed talent signal (output of 38) ; changing the varying delay amount of the delay in step a) from time to time (no changes to delay if small changes in delay of incoming signals are detected); combining the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the varying the level of step b) is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 38, Kirby discloses delaying the talent signal (12) by a varying delay amount in response to the variable amount of delay (22); providing a cancellation signal of a known level in response to the delayed talent signal (output of 38) ; changing the varying delay amount of the delay in step a) from time to time (no changes to delay if small changes in delay of incoming signals are detected); combining the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the varying delay amount of step a) is automatically adjusted in response to comparison of the feedback signal and the talent signal in undelayed form (10), and the level of step b) is automatically adjusted in response to the mix minus signal (mix minus signal is fed back to the filter) and the talent signal in delayed form (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 40, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of at least one of the gain responsive to the mix minus signal (feedback loop from output of 40); a combining circuit responsive to the feedback signal and the cancellation signal to provide the mix minus signal (40); and wherein the amount of the gain is responsive to the feedback signal (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 41, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed

or undelayed from in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the delay responsive to feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected) and the amount of gain automatically responsive to mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 42, a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed from in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of at least gain responsive to mix minus signal (mix minus signal is fed back to the filter); a combining circuit responsive to the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the amount of gain is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 43, a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed from in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of the delay automatically responsive to feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected), with the amount of gain automatically responsive to mix minus signal (mix minus signal is fed back to the filter); a combining circuit responsive to the feedback signal and the cancellation signal to provide

the mix minus signal (40); wherein the amount of the gain is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 44, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed from in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of at least gain responsive to the mix minus signal (mix minus signal is fed back to the filter); a combining circuit responsive to the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the delay is automatically adjusted in response to comparison of the feedback signal and the talent signal in undelayed form (10), and the gain is automatically adjusted in response to the mix minus signal (mix minus signal is fed back to the filter) and the talent signal in delayed form (coefficients of the filter

Regarding claim 45, Kirby discloses a cancellation circuit responsive to the talent signal (12) to delay the talent signal in a variable delay (22) and to gain adjust the talent signal in delayed or undelayed from in a variable gain circuit (32 and 38) thereby providing a cancellation signal (output of 38), with the amount of at least gain responsive to the mix minus signal (mix minus signal is fed back to the filter); a combining circuit responsive to the feedback signal and the cancellation signal to provide the mix minus signal (40); wherein the delay is automatically adjusted in response to comparison of the feedback signal and the talent signal in undelayed form (10), and the gain is automatically adjusted in response to the mix minus signal (mix minus signal

is fed back to the filter) and the talent signal in delayed form (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 46, Kirby discloses delaying the talent signal (12) by a varying delay amount in responsive to the varying relative timing (22); adjusting the level of the talent signal in delayed or undelayed form (32 and 38) and providing a cancellation signal in response to the delayed form thereof (output of 38); in the adjusting step b), changing the amount of the level in responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein the varying the level of step b) is responsive to the feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected).

Regarding claim 47, Kirby discloses delaying the talent signal (12) by an varying delay amount responsive to the relative delay which may vary (22); adjusting the level of the talent signal in delayed or undelayed from in a variable gain circuit (32 and 38) and providing a cancellation signal in response to the delayed version thereof (output of 38); wherein in step a) the varying delay amount is automatically responsive to the feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected), in step b) the level is automatically responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein the varying the level of step b) is responsive to the feedback signal

(coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 48, Kirby discloses delaying the talent signal (12) by a varying delay amount in response to the varying relative timing (22); adjusting the level of the talent signal in delayed or undelayed from (32 and 38) and providing a cancellation signal in response to the delayed form thereof (output of 38); in the adjusting step b), changing the level in response to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein the varying the level of step b) is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 49, Kirby discloses delaying the talent signal (12) by an varying delay amount responsive to the relative delay which may vary (22); adjusting the level of the talent signal in delayed or undelayed from in a variable gain circuit (32 and 38) and providing a cancellation signal in response to the delayed version thereof (output of 38); wherein in step a) the varying delay amount is responsive to feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected) and in step b) the level is automatically responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in responsive to the feedback signal and the cancellation signal(output of 40); wherein the varying the level of step b) is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 50, Kirby discloses delaying the talent signal (12) by varying delay amount in responsive to the varying relative timing (22); adjusting the level of the talent signal in delayed or undelayed from (32 and 38) and providing a cancellation signal in response to the delayed from thereof (output of 38); in the adjusting step b), changing the amount of the level in response to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein the level of step b) is responsive to the mix minus signal (mix minus signal is fed back to the filter) and the talent signal in undelayed form (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 51, Kirby discloses delaying the talent signal (12) by an varying delay amount responsive to the relative delay which may vary (22); adjusting the level of the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) and providing a cancellation signal in response to the delayed version thereof (output of 38); wherein in step a) the varying delay amount is automatically responsive to the feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected) and varying in step b) the level is automatically responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein varying the level of step b) is responsive to the mix minus signal (mix minus signal is fed back to the filter).

Regarding claim 52, Kirby discloses delaying the talent signal (12) by a varying delay amount in responsive to the varying relative timing (22); adjusting the level of the talent signal in delayed or undelayed form (32 and 38) and providing a cancellation signal in response to the delayed thereof (output of 38); in the adjusting step b), changing the amount of the level in responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein the varying delay amount of step a) is automatically adjusted in response to comparison of the feedback signal and the talent signal in undelayed form (10), and the level of step b) is automatically adjusted in response to the mix minus signal (mix minus signal is fed back to the filter) and the talent signal in delayed form (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

Regarding claim 53, Kirby discloses delaying the talent signal (12) by a varying delay amount in responsive to the relative delay which may vary (22); adjusting the level of the talent signal in delayed or undelayed form in a variable gain circuit (32 and 38) and providing a cancellation signal in response to the delayed version thereof (output of 38); wherein in step a) the varying delay amount is responsive to at least feedback signal (variable delay 22 is vary depending upon changes in a relative delay of feedback and talent signals are detected) and in the varying in step b), the level is automatically responsive to the mix minus signal (mix minus signal is fed back to the filter); providing the mix minus signal in response to the feedback signal and the cancellation signal (output of 40); wherein the varying delay amount of step a) is automatically

adjusted in response to comparison of the feedback signal and the talent signal in undelayed form (10), and the level of step b) is automatically adjusted in response to the mix minus signal (mix minus signal is fed back to the filter) and the talent signal in delayed form (coefficients of the filter is changed if there is any remaining small relays between feedback and talent signals).

4. This in response to the applicant's argument which was received on July, 20 2000.

On page 1, line 1 to page 2, line 17, the applicant has argued that figure 3 contains same elements as of figure 2 and figure 3 is improvements to the invention. The applicant's argument is not persuasive because as disclosed by the applicant on page 6, lines 3 to 6, figure 2 and figure 3 are different embodiments. Also, the examiner agrees that the claim 1 is generic. When claim 1 becomes allowable, these dependent claims would be allowable.

On page 2, lines 18 to 21, the applicant has "a suitable delay with pitch shifting is described in application serial number 08/322,069, now U.S. Paten 5,920,842". The examiner has reviewed the patent 5,920,842, however, it is still unclear to the examiner how the delaying of step a) include pitch correction.

On page 4, lines 4 to 10, the applicant has argued that there is no teaching in Kirby of delay 22 being eliminated to allow 32 to operate on the undelayed signal 12. The applicant's argument is not persuasive because on page 6, lines 20 to 28, Kirby has disclosed that when small changes in delay are detected, the system makes no compensation adjustment to delays 21 and 22.

On page 4, lines 11 to 17, the applicant has argued that Kirby reference does not disclose adjustment of gain. The applicant's argument is not persuasive because coefficients of 32 are decided based on gain.

On page 4, line 24 to page 7, the applicant has argued that Kirby does not disclose "the delay or gain to be responsive to operator adjustment". However, as described above, the applicant's argument is not persuasive because the filter of Kirby reads on operator adjustment as claimed.

Regarding applicant's argument on page 5, lines 8 to 24, see above.

On page 6, lines 1 to 24, the applicant has argued that "continuously monitoring does not equate with the variable delay being in continuing response". The applicant's argument is not persuasive because as described above, variable delay of Kirby is continuous. It could be continuous for 1 second or 1 minute or so on.

Regarding applicant's argument on page 7 to 8, see above.

The examiner maintains the rejection as set forth above.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minsun Oh Harvey whose telephone number is (703) 308-6741.

MINSUN OH HARVEY
PRIMARY EXAMINER

October 10, 2000